

MONTHLY WEATHER REVIEW.

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BOARD OF EDITORS { Mr. Horace E. Smith, Chief Clerk Weather Bureau,
Professors Henry A. Hazen, Thomas Russell, and Charles F. Marvin, and
Mr. Edward B. Garriott, in charge of Review Room.

INTRODUCTION.

This REVIEW is based on reports for October, 1891, from 2,541 regular and voluntary observers. These reports are classified as follows: 158 reports from Weather Bureau stations; 118 reports from United States Army post surgeons; 1,640 monthly reports from state weather service and voluntary observers; 32 reports from Canadian stations; 193 reports through the Central Pacific Railway Company; 400 marine reports through the co-operation of the Hydrographic Office, Navy Department; marine reports through the "New York Herald Weather Service;" monthly reports from the local weather services of Alabama, Arizona, Arkansas, California, Colorado, Florida, Georgia, Illinois, Indiana, Iowa Weather and Crop Service, Kansas, Kentucky, Louisiana, Maryland, Michigan, Minnesota, Mississippi, Missouri, Nebraska, Nevada, New England, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oregon, Pennsylvania, South Carolina, South Dakota, Tennessee, Texas, Utah, Virginia, Washington, West Virginia, Wisconsin, and Wyoming, and international simultaneous observations. Trustworthy newspaper extracts and special reports have also been used.

CHARACTERISTICS OF THE WEATHER FOR OCTOBER, 1891.

The month was cooler than usual east of the Rocky Mountains and south of the Ohio Valley and the lower lake region, and was warmer than the average October along the Pacific coast, over the Rocky Mountain and plateau regions, and in the middle and upper Missouri and upper Mississippi valleys and the upper lake region. At points in Montana, Oregon, and Washington it was the warmest, and at stations in the south Atlantic and east Gulf states it was the coolest October on record. On the north Pacific coast, and from the lower Missouri valley over the Lake region, New York, south New England, and New Jersey the maximum temperature was the highest, and on the south and east New England coasts the minimum temperature was the lowest ever reported for October.

The line of freezing weather extended over the east Gulf states nearly to the coast line during the third decade of the month, with heavy frost as far south as southern Georgia, central Alabama, and central Louisiana. From the 21st to the 24th light frost was noted in the interior of the Florida Peninsula to about the 28th parallel.

PRECIPITATION.

The monthly precipitation was generally deficient, an excess appearing only along the immediate Atlantic coast north of the 33d parallel, in Kansas and southeast Nebraska, on the northeast slope of the Rocky Mountains, and along the north Pacific coast. At points on the middle Virginia coast, in northeast Kansas, and southern Montana the monthly precipitation was the greatest, and at stations in the east and west Gulf states, the central Ohio valley, the upper lake region, Arkansas, Indian Territory, Texas, western Colorado, northeast Washing-

ton, and southern California it was the least ever noted for October.

Snow fell to the depth of ten to fifteen inches on the northeast slope of the Rocky Mountains and in northwest North Dakota, and the snowfall exceeded five inches in the mountains of Colorado. In the central valleys snow fell as far south as southern Kansas and central Kentucky, and it was reported in the Alleghany Mountains to western North Carolina. The first snow of the season was reported in the Missouri Valley, in Iowa, and over the east part of the middle plateau region during the first decade, in the north part of the upper lake region, in central Kentucky and northern New York during the second decade, and in the Alleghany Mountains, New York, and New England during the third decade of the month.

STORMS.

No well-defined tornadoes were reported. The storms of the north Atlantic Ocean were of exceptional seasonal severity. Heavy gales occurred along the North Carolina, middle Atlantic, and New England coasts. Storms of great energy prevailed in the Lake region on the 26th and 31st, in the Dakotas and Minnesota on the 30th, and on the north Pacific coast on the 18th.

DROUGHT.

Damaging drought prevailed in the southern and southwestern states, and in parts of New England and the Middle and Western States. Rivers and streams in the south-central valleys and the Southern States were very low. On the Tennessee, Red, and Chattahoochee rivers traffic was practically suspended, and navigation on the Ohio and Mississippi rivers was rendered difficult on account of low water.

ATMOSPHERIC PRESSURE (expressed in inches and hundredths).

The distribution of mean atmospheric pressure for October, 1891, as determined from observations taken daily at 8 a. m. and 8 p. m. (75th meridian time), is shown on Chart II by isobars.

In October there is usually an increase in mean pressure over the North American continent, and a decrease in pressure over the north Atlantic Ocean. The normal pressure is highest over the region lying between the 30th and 40th